THE EFFECT OF VIDEO GAME PLACEMENTS ON BRAND ATTITUDE

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ABSTRACT

This study explores the effects of use-simulated and peripheral placements in video games on attitude to the brand. Results indicate that placements do not lead to enhanced brand attitude, even when controlling for involvement and skill. It appears this is due to constraints on brand information processing in a game context.

INTRODUCTION

Product placement first appeared in the 1920s, but it was not until the 1980s-90s that the strategy gained popularity. In 2006, global paid product placement spending increased 37.2% to $3.36 billion (PQ Media 2007). Including non-paid placements, the global market was estimated to be worth $7.76 billion (PQ Media 2007). With specific regard to electronic games, spending on placements grew more than 20% in 2007 (PQ Media 2008). Yankee Group (2007) estimates that the global in-game advertising market generated $77.7 million in 2006 and will reach $971.3 million by 2011. Despite these impressive figures, the rapid growth of product placement in games has far outpaced research efforts in the field. Only a handful of studies have investigated the influence of game placements on consumer behavior. The majority have examined their influence on brand awareness.

THE EFFECTS OF PRODUCT PLACEMENT IN GAMES

The most prominent study in the literature is Nelson's (2002), which investigated the effects of video game placements in a console racing game. The results showed that players are able to recall brands (the brands of cars driven and peripheral billboards) both after play and a delay, even upon playing for only a limited amount of time. These findings are supported by Schneider and Cornwell (2005) and Lee, Mulye and Stavros (2009). Qualitative studies performed by Molesworth (2006) and Kuhn, Pope and Voges (2007) produced similar results.

Several other studies have explored online gaming (e.g., Chaney, Lin and Chaney 2004; Grigorovici and Constantin 2004; Hernandez, Suh and Minor 2005; Lee and Faber 2007) and computer games (Nelson, Yaros and Keum 2006; Yang et al. 2006). These investigations have shown placements to have a relatively weak influence on brand memory. In particular, Grigorovici and Constantin (2004) found that presence has a detrimental effect on brand recall and recognition, while Lee and Faber (2007) found lower recall for more congruent brands. Studies of online games that feature fewer brands (i.e. advergames) have shown more positive effects on brand awareness (e.g., Hernandez and Chapa 2009; Winkler and Buckner 2006). Also, with regard to simplistic online games, Yang and Wang (2008) found players can recall placed products, even after a delay.

Most research has focused on brand awareness outcomes, but three studies represent exceptions. Bambauer (2006) found that visual brand placements in a console video game can positively change attitude toward the brand if the placement and game are evaluated positively. Flow was also found to have a positive effect on attitude toward the game, which in turn had a significant positive effect on the change of attitude toward the brand. Wise et al. (2008) examined online advergames and found a strong positive relationship between attitude toward the game and attitude toward the brand, particularly when the product/ brand had high fit with the game. It is unclear however whether the change in attitudes was significant. Also, both of the aforementioned studies included a pre-test measure, which may have biased results. Mallinckrodt and Mizerski (2007), on the other hand, found no effect on attitudes for a brand placed in a web-based advergame, though older children in their study did report a higher brand preference.

A weakness of almost all these studies is that they represent laboratory-based experiments, which are exploratory in nature. They have tended to use small, non-random samples made up predominantly of men, even though women now represent a key gaming segment. In many instances, subjects were self-selected game players who are regular game users (e.g., Bambauer 2006; Nelson 2002; Schneider and Cornwell 2005).

To build on the existing body of literature and fill a gap concerning the influence of placements in games, the current research seeks to understand more completely the relationship between game placements and attitudes. In other words: *What is the effect of brand and product placements in video games on the consumer's response in terms of attitude to the brand?*

Motivation as a Determinant of Attitudes Toward Brands in Video Games

The effect of video game product placement on attitudes will depend on an individual's motivation to process information in this context (Greenwald and Leavitt 1984). Motivation is stimulated by activated needs and determines how one attends to information (Mitchell 1981; Petty and Cacioppo 1986). If other motivations are present and other goal objects are the focus of attention, motivation to process information will be low (Mitchell 1981). An individual may even avoid information which is contradictory and potentially an impediment to their goals to preserve limited cognitive resources, as has been shown to be the case in both traditional and interactive media (Cho and Cheon 2004; Speck and Elliott 1997).

The primary motivation for playing a game is to gain an enjoyable experience (Sweetser and Wyeth 2005). This would suggest that it is the game play which is a gamer's primary goal object and therefore the focus of their attention. If this is the case, then it is likely a gamer's motivation to process brand and product placement messages within this context will be low. If the attitudinal impact of persuasive communications depends on the information processing efforts of the audience, then it is likely in a video game where motivation is low that attitudinal effects will not be demonstrated. The following hypothesis is proposed:

> *H1: An individual exposed to brand and product placement in a video game will not report a higher Attitude to that Brand (A_{BR}) than a similar individual who has not been exposed to the placement.*

Video game play is often a social activity that involves many people (ESA 2004). Considering that individual goals affect how viewers evaluate information, it is possible that the effects of placements may be different within a gaming group. Nelson, Yaros and Keum (2006) examined the influence of playing versus watching a game, demonstrating that playing the game impeded brand recall.

Games demand and automatically elicit attention, but the selective aspect of a player's attention will also be directed to need-relevant stimuli (MacInnis and Jaworski 1989; Rubin 1994). So, a player will engage in activities that are instrumental to winning the game and thus will focus on the unfolding play. With the existence of other motivations at the time of placement exposure and deeper cognitive processes dedicated to the game action, players may not process brand messages. Observers however are more likely to pay attention to whatever is interesting. Their attention and comprehension effort may not be as focused as that of a player. Less goal-directed viewers focus on the appearance of a stimulus and process it at a structural level, receiving greater exposure to the medium (Rubin 1994). Consistent with H1, any effects on attitudes are unlikely to be significant, but a difference may be evident between players and observers. The following is proposed:

> *H2: An individual exposed to a brand or product placement in a video game while playing the game will report a lower A_{BR} than a similar individual who has been exposed to the placement as an observer of the game.*

Opportunity and Types of Game Placements

Russell (1998) first classified product placement along three dimensions. A "visual" placement involves placing a brand in the background of a show; an "auditory" placement occurs when a brand is mentioned in a dialogue; and the "plot connection" dimension refers to the integration of a brand with a story's plot. However, a fourth dimension is proposed for brands and products in interactive media. These media allow placed products and brands to be used by consumers. This does not occur in a real world context, but is simulated in the medium. It is proposed that these are use-simulated placements, which can vary depending on the extent of their use.

The first key method for integrating brands and products into game content is therefore to feature them as active equipment and characters. The second is that they can be included as passive background props. In the former case, customization features enable players to select, alter and engage with products integrated into the game's plot (use-simulated placements), whereas in the latter, brand logos may appear as part of the game scenery (a peripheral placement). By their nature, use-simulated placements are more prominent, affording a greater opportunity for them to be noticed and processed. Considering the effects of more prominent placements on brand recall (e.g., Schneider and Cornwell 2005), the following hypothesis is proposed:

> *H3: Whether or not the placement is 1) simulated in use during the video game or, 2) in the form of peripheral advertising will have a significant main effect on an individual's A_{BR}.*

Ability as a Moderator of Attitudes

Ability also affects the level of processing an individual can achieve, because like opportunity, it moderates the impact of motivation on attention and processing capacity (Greenwald and Leavitt 1984). Ability represents an individual's skills or proficiency in interpreting brand information (MacInnis and Jaworski 1989) and is dependent on prior knowledge, as well as intelligence (Alba and Hutchinson 1987; Sujan 1985).

In the context of a game, if a placed brand or product is of interest to a gamer and they possess knowledge about it, they are more likely to become involved in the message. An uninvolved individual would be likely to pay only minimal attention to the same message. Nelson (2002) demonstrated that when a brand is a major part of game play, the consumer is actively involved and the brand is relevant, recall is enhanced. Therefore, it is proposed that involvement with a product category may act as a confound in any main effects of product placement on brand attitudes. The following hypothesis is proposed:

> *H4: An individual's involvement with the product category will covary with any main effect of exposure to a product placement on A_{BR}.*

One final factor likely to have an influence is skill level. An individual engaged in a goal directed activity requires greater technical skills than an individual engaged in experiential behavior. These skills are required in order to be successful in winning a game. Video games have high range whereby they offer many possibilities for action at any given time (Steuer 1992). In this mediated environment, users require a high level of skill, concentration and control. Where skills are weak, an individual may be distracted from brands. Indeed, studies have shown that more experienced players are better able to recall and recognize brands than novices (Lee, Mulye and Stavros 2009; Schneider and Cornwell 2005). Skill level is therefore recognized as a potential confound that may influence attitudinal responses to video game placements. The following hypothesis is proposed:

> *H5: The skill level of the player of the game will covary with any main effect of exposure to a brand or product placement on A_{BR} for both a player and an observer of the game.*

METHOD

A laboratory experiment was employed using a post-test-only, three group experimental design. Subjects were randomly assigned to video game play, video game observation or control. The control group was not exposed to a game, but a placebo brand was included to test for any game effect and eliminate game stimulation. Measurement of the dependent variable was taken using a survey instrument incorporating pre-existing scales.

Treatment of Variables

The independent variable in the current study was video game product placement. Two types were examined: products placed in the video game so that they are simulated in use and those placed peripherally in the background. A console video game featuring these placements represented the stimulus. Selecting a console (played via a television) enhanced internal validity, because unlike in the case of arcade or online games, greater control over the environment and extraneous variables was afforded. *V8 Supercars 2* for the Microsoft Xbox (called *TOCA Race Driver* in the U.S) was chosen. This racing game is based on Australia's motor sport series and

features existing products/ brands. Its selection counteracted any novelty effects. Three brands from the game were selected for investigation: Holden which represented the use-simulated product placement (the brand of car driven), Qantas as the peripheral brand placement (featured on track signage) and Compaq for the placebo brand. These are all real, familiar brands that have high fit with the game.

The stimulus was directed at two treatment groups: players and observers. They were exposed to the game in a laboratory setting that was designed to simulate a lounge room. To achieve consistency and control other extraneous variables, the vehicle, driver and race circuit were pre-selected by the researchers. Gamers were asked to play the game naturally, though verbal instructions were provided to facilitate the experiment. Gamers were asked to complete one lap of the racetrack as either a player or an observer and then watch a replay of their race. This was a cross-sectional design, so subjects were assigned to one group with one measurement taken. Every respondent was exposed to the circuit at least twice, thereby receiving multiple brand exposures, though the exact number depended on the skill level of the player. If a subject experienced a crash so severe that it rendered them unable to continue game play, they were allowed to recommence the game. Assessing skill level removed several confounds that may have existed. The mean time for exposure to the video game stimulus was 9.5 minutes (SD = 3.93, range = 4-18.5 minutes, N = 40). Actual game play lasted 2 to 14 minutes (M = 5.75, SD = 2.89), while time spent viewing the game replay ranged from 2 to 8.5 minutes (M = 3.5, SD = 1.46).

Response to the stimulus was measured by the dependent variable of attitude to the brand. This was operationalized using the Brand Quality instrument reported by Keller and Aaker (1992). This is a 3-item semantic differential scale anchored by descriptives and their negatives. It was changed to a 3-item Likert-type scale with strongly disagree (1) and strongly agree (7) as anchors. The scale was replicated for each of the brands under investigation, but with slight modification to the statements. The reliabilities were acceptable: all scales achieved a Cronbach's alpha coefficient of greater than .80.

Involvement was operationalized with regards to car involvement and represented a covariate. This was measured using the Srinivasan and Ratchford (1991) Product Involvement scale. The current study applied a 6-item, 7-point Likert-type measurement anchored by the descriptors strongly disagree and strongly agree, where 1 represented lower car involvement and 7 higher car involvement. A Cronbach's alpha of .95 was achieved. Skill level in the game represented the second covariate and was measured using a single-item, 7-point Likert-type scale, where 1 represented lower skill level and 7 higher skill level. Skill level referred to the driving ability of the player in the game, as reported by players and observers. These respondents were asked to indicate their level of agreement with the statement: "In this race I/ the player drove well".

Sample

The sample was drawn from an Australian east coast university community. It was not necessary for respondents to possess any distinguishing characteristics, but rather a sample was sought to reflect the true, diverse demographics of gamers. It included not only students, but also academics, other staff, university guests, and any associates or family who were on campus at the

time of the research. Simple random sampling using a mall-intercept technique was employed, whereby every fourth person passing a given point was asked to participate until a sample size of 20 respondents per group was achieved (N = 60). To prevent bias in sample element selection, respondents were recruited from different locations across the university and the experiment was conducted on different days, at different times. A random split-pair technique was used to allocate subjects to the treatment of player or observer.

Survey Instrument and Administration

Data were collected from respondents via a self-administered survey. This was administered to the treatment groups following exposure to the game stimulus (players and observers were separated to ensure no contamination of the results). The control group completed the survey at the location where they were recruited. Respondents were asked to indicate their opinion on a number of statements relating to each of the brands, their involvement with cars, skill level (removed for the control group), age and gender. The average time for survey completion was just over three minutes. Following completion, respondents were debriefed as to the true purpose of the research, which had not been disclosed to control for demand artifacts. At this time, respondents were also entered into a draw to win free movie tickets, as a gesture of appreciation.

RESULTS

Sample Overview

A total of 32 males and 28 females participated in the study. The mean age for the sample is 25.03 years (SD = 9.70, N = 60). The standard deviation and the range in age from 17 to 60 years can be explained by the sampling procedure. Given the range in age, no further testing was performed in relation to this variable.

H1: Effect of Brand and Product Placements on Brand Attitude

Hypothesis one stated that an individual exposed to a brand or product placement in a video game would not have a higher attitude to the brand compared to an individual not exposed to the placement. All three groups were included as part of this analysis, but were collapsed into two groups: those exposed to the video game including players and observers (N = 40) and those not exposed, or in other words, the control group (N = 20). Each brand (Holden, Qantas, Compaq) was tested separately. The summated scale for measuring brand attitude was the same for all three brands.

In relation to the Holden brand, which was simulated in use in the video game, the results indicate that those respondents who were exposed to the placement (M = 4.40, SD = 1.50, N = 40) had a lower attitude to the brand than those who were not exposed (M = 4.71, SD = 1.65, N = 20). To test whether the means were significant, a one-way analysis of variance was conducted. This indicates that there is not a significant difference in attitude to the Holden brand between individuals exposed to the Holden video game product placement and individuals not exposed (df = 1, 58; F = .55; p = .46).

The Qantas brand, which was featured in the video game in the form of a peripheral brand placement, was also tested. Respondents who were exposed to the Qantas brand placement in the game (M = 4.64, SD = 1.60, N = 40) had a slightly higher attitude to the brand than those who were not exposed to the brand in the game (M = 4.60, SD = 1.26, N = 20). There was no significant difference in attitude to the Qantas brand between individuals exposed to its video game product placement and individuals not exposed (*df* = 1, 58; F = .01; *p* = .92).

Finally, the same test procedures were conducted for the third brand, Compaq (recall that this was the placebo brand not featured in the video game). Comparison of the exposed (M = 4.40, SD = 1.41, N = 39) and not exposed (M = 4.41, SD = .88, N = 20) groups showed a slight difference in means. This difference is not significant (*df* = 1, 58; F = .00; *p* = .98).

In summary, the results indicate that there is not a significant difference in brand attitude between individuals exposed to a brand or product placement in a video game and those not exposed to the placement. H1 is therefore supported.

H2: Effect on Brand Attitude–Players versus Observers

H2 predicted that an individual exposed to a brand or product placement in a video game while playing would have a lower attitude to the brand than would an individual exposed to the placement while observing the game. Two groups were included in the analysis: those who played the video game (N = 20) and those who observed (N = 20).

Respondents who were exposed to the Holden product placement while playing the video game (M = 4.37, SD = 1.73, N = 20) were found to have a slightly lower attitude to the brand than those who were exposed to Holden while observing the game (M = 4.43, SD = 1.28, N = 20). The results of a one-way analysis of variance indicate that there is not a significant difference in attitude between individuals exposed to Holden video game product placement while playing and individuals exposed while observing (*df* = 1, 38; F = .02; *p* = .89).

Attitude to the Qantas brand was also tested. The mean for individuals who played the video game (M = 4.78, SD = 1.77, N = 20) was higher than for individuals who observed (M = 4.50, SD = 1.44, N = 20), suggesting players had a higher attitude to the Qantas brand. A one-way analysis of variance showed this difference is not significant (*df* = 1, 38; F = .31; *p* = .58).

Comparison of the two treatment groups in relation to Compaq revealed a lower attitude among respondents who played the video game (M = 4.30, SD = 1.56, N = 20) than those who observed (M = 4.52, SD = 1.26, N = 19). But, as in the case of Holden and Qantas, the results indicate that there is no significant difference in attitude to the Compaq brand between individuals who played and individuals who observed the game (*df* = 1, 38; F = .23; *p* = .63).

Overall, the results indicate that there is not a significant difference in brand attitude between individuals exposed to a brand or product placement while playing a video game and those exposed to a placement while observing a game. H2 is not supported.

H3: Effect on Brand Attitude–Use-Simulated Placements versus Peripheral Placements

H3 examined whether a placement simulated in use in a video game or placed peripherally in a game would have an effect on an individual's attitude to the brand. To test this, only two of the three brands were included in the analysis: Holden, which was the brand of vehicle driven in the game and Qantas, which was a peripheral brand placement. Compaq was excluded since it was not featured. Brand attitude was measured for the two treatment groups, that is, players (N = 20) and observers (N = 20). These were combined to create one group: those exposed to the game. Unlike in the previous tests, the purpose was to detect a difference between the two different types of placements, rather than between groups of respondents.

Respondents exposed to the game (both players and observers) had a lower attitude to the brand simulated in use (M = 4.40, SD = 1.50, N = 40), than to the brand placed peripherally in the game (M = 4.64, SD = 1.60, N = 40). Results of a one-way analysis of variance indicate that this difference in attitude to the use-simulated brand and attitude to the peripheral brand for individuals exposed to the video game is not significant (df = 1, 78; F = .48; p = .49).

Thus, whether a placement is simulated in use or featured peripherally in a video game has little effect on brand attitude; any difference lacks practical significance. H3 is not supported.

H4: Influence of Involvement

Earlier it was suggested that an individual's involvement with a placement's product category may act as a confound in any effects of exposure to a placement on attitude to the brand. To test this, an analysis of covariance was undertaken.

Involvement was operationalized with regards to car involvement and represented the covariate in the analysis. Involvement was measured on a 6-item, 7-point Likert-type scale, with 1 being lower car involvement and 7 higher car involvement. The analysis of covariance showed no statistically significant effect of involvement on attitude to the brand (df = 1, 37; F = .02; p > .05). H4 is not supported.

H5: Influence of Skill Level

It was predicted that the skill level of the game player may act as a confound in any effects of exposure to a placement on attitude to the brand for both a player and game observer. Attitude to the brand was examined for Holden and Qantas, using the summated scales. An analysis of covariance showed no statistically significant effect of skill level on attitude to the brand (df = 1, 37; F = .02; p > .05). Thus, H5 is not supported.

DISCUSSION

The current study found that consumers' attitude to a brand is not higher as a result of exposure to game placements, consistent with H1. We argue that these results are due to constraints placed on brand information processing in a game context. Recall that whether an individual attends to

and processes a message depends on their motivation level, and whether they have sufficient opportunity and ability (MacInnis and Jaworski 1989). When all three conditions are low, attitude change is unlikely.

Processing motivation can be reduced if other motivations are present at the time of ad exposure (Kahneman 1973; Mitchell 1981). Gamers probably lack the motivation to process placements, because their primary motivation is to play and win the game. They are likely to allocate most of their attentional and processing resources to the encoding and storage of main messages (the game action), and less to secondary messages (placements). This conclusion is supported by Grigorovici and Constantin (2004). Also, the interactive and vivid nature of games means they demand and automatically elicit attention, so even for observers, attention is directed to the play. Further, with product placement there are several sensory dimensions present and when combining this with the sensory immersion of a game, it is likely players and observers will be too overwhelmed to process any brand information. In support, Lee and Faber (2007) found that when involvement in a game is high, brand recall and recognition are reduced.

Whether a placement is simulated in use in a video game or featured peripherally also has no influence on attitude to the brand. It may be that the circumstances of exposure reduce opportunity (MacInnis and Jaworski 1989), eliminating the potential for ad factors to have any effect. First, the presence of other people could place further constraints on processing capacity and attention. Often gamers play in groups (ESA 2004), so if attention is allocated to secondary tasks such as conversation, there is the potential for further distraction from placements. Indeed, subjects in the current study spoke to one another, with observers offering words of encouragement and instructions to players. Second, a condition of low opportunity may be created by the fact that a video game is a competitive, dense-with-messages environment. Information processing is reduced when the number of environmental stimuli exceed an optimal level (Schroder, Driver and Streufert 1967). The number of placements may also contribute to perceptions of “advertising clutter” (Speck and Elliott 1997), resulting in ad avoidance (Cho and Cheon 2004) so as not to affect already strained cognitive resources. This may explain why studies of advergames and other simplistic online games have shown more promising results, because they feature fewer stimuli.

The findings also demonstrate that involvement does not influence the relationship between video game product placement and attitudes. This is unlikely to be due to inadequate prior knowledge on the part of respondents constraining ability, because familiar brands were selected for investigation and subjects possessed a level of involvement with cars (a mean of 4.00 was recorded, but involvement was not so low as to suggest that respondents had no familiarity with the product category). Instead, it may be that prior knowledge was unable to enter working memory due to involvement in the game. One further explanation is that product placements are designed to be unobtrusive and non-commercial (Balasubramanian 1994), so some gamers may not recognize them as “ads”, like in the case of television placements (La Pastina 2001). Processing may therefore be difficult due to the nature of the message (Edell and Staelin 1983), not just because of the game environment.

Finally, a player’s skill level in a video game was also identified as a potential confound, but it too was found to have no influence on attitudinal response to brand and product placements. The

skill level of subjects in this study was poor with a mean of 2.88 observed, where one represented lower skill and seven higher skill. The game play was obviously difficult for respondents, so it is likely this placed higher demands on processing resources. Players and observers would have been forced to concentrate even harder on the game play, thereby further constraining cognitive capacity for placement processing.

CONCLUSIONS

It has been suggested that electronic games are becoming the most powerful marketing medium ever created (e.g., Nelson 2002), but there is insufficient evidence to validate their use as a promotional tool. The current study makes an important contribution in this regard, specifically in terms of understanding the potential for placements in video games to influence brand attitudes: a key objective for practitioners (Avery and Ferraro 2000). Contrary to existing assumptions, particularly in the trade literature (e.g., Reid 2010), this research provides empirical evidence that brand and product placements in games do not produce strong attitudinal responses. The nature of the game medium, game playing experience and product placement impose constraints on gamer motivation, opportunity and ability to process these messages, thereby precluding their impact on attitude to the brand.

The findings must be considered in light of some key limitations. These pertain to the experimental design, stimulus and sample, which threaten the external validity of the current research. It is difficult to generalize the findings to other game types, genres, game playing situations, brands and the larger population of gamers, including different sub-groups. The laboratory setting for the experiment and the sample satisfied the requirements for high internal validity, but further research across different contexts and samples is warranted. That said, a major strength of the study is that the treatment and control groups were of like type and the experimental design suggests that replication would yield similar results.

Research that uses different stimuli and manipulates the conditions for placement presentation would be useful, whether through replication of this study or a field experiment. The use of longer-term measures would also make an important contribution. The current research addresses many of the method-based limitations of other studies (e.g., lack of control groups, small non-random samples), but a key weakness is its single-exposure design, consistent with other product placement investigations conducted to date (for a notable exception see Russell 2002). Future studies should explore the effects of placements after extended play (perhaps using longitudinal research designs), as this would more accurately reflect the true conditions by which gamers are exposed to brands, and allow for the structural aspects of games and their influence to be taken into account. Such research will be of utmost practical significance. Industry developments are encouraging the use of games as a medium for placement messages, but further academic work will provide practitioners the necessary empirical evidence to help guide promotional strategy decisions.

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